

CLAIMS:

1. A method for modifying a surface of a polymeric substrate, said method comprising:
- a) providing a polymeric substrate;
 - 5 b) exposing at least one surface of said polymeric substrate to energy to form surface radical forming groups on said at least one surface of said polymeric substrate;
 - c) treating said polymer substrate with a fluid comprising at least one type of monomer; and
 - 10 d) subjecting said treated polymeric substrate to activation energy to cleave at least some of said radical forming groups and initiate graft polymerization of said monomer;

wherein the step of subjecting said treated polymeric substrate to activation energy is performed substantially in the absence of added photoinitiator.

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2. The method of claim 1 wherein said polymeric substrate comprises a polymer selected from the group consisting of polyolefins and polyesters.
3. The method of claim 2, wherein said polymeric substrate comprises a polyolefin.
- 20 4. The method of claim 3, wherein said polyolefin comprises polypropylene.
5. The method of claim 1 wherein said fluid comprises one or more ethylenically unsaturated monomers.
- 25 6. The method of claim 5 wherein said ethylenically unsaturated monomer comprises an acrylic acid monomer or a methacrylic acid monomer.

7. The method of claim 1 wherein said polymeric substrate is a sheet material selected from the group consisting of nonwoven web materials, film materials, foam materials and laminates thereof.

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8. The method of Claim 7 wherein said polymeric substrate comprises a polymer selected from the group consisting of polyolefins and polyesters.

9. The method of Claim 8 wherein said polymeric substrate is a nonwoven web
10 material comprising polyolefin.

10. The method of Claim 8 wherein said polymeric substrate is a film material comprising polyolefin.

15 11. The method of Claim 1 wherein the step of exposing at least one surface of said polymeric substrate to energy to form surface radical forming groups is performed by exposing said polymeric substrate to corona discharge.

12. The method of Claim 1 wherein said activation energy is ultraviolet radiation.

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13. The method of Claim 1 wherein the step of subjecting said treated polymeric substrate to activation energy is performed in a reduced oxygen condition.

14. The method of Claim 1 wherein said fluid comprising monomer is an aqueous
25 solution comprising monomer.

15. The method of Claim 9 wherein said polymeric substrate is a nonwoven web material comprising polypropylene and wherein said monomer is an acrylic acid monomer.

16. The method of Claim 1 wherein said fluid further comprises at least one crosslinking agent selected from the group consisting of triallyl phosphate, trivinyl cyclohexane, bis (2-methacryloxyethyl) phosphate, 1,4-butanediol diacrylate, 1,4- butanediol dimethacrylate, diethylene glycol diacrylate and diethylene glycol dimethacrylate.

17. A polymeric substrate comprising at least one modified surface, said surface modified in accordance with the method of Claim 1.

18. A polymeric substrate comprising at least one modified surface, said surface modified in accordance with the method of Claim 6.

19. A polymeric substrate comprising at least one modified surface, said surface modified in accordance with the method of Claim 15.

20. The surface modified polymeric substrate of claim 17, wherein said substrate has been further treated with a strong Lewis base to form the conjugate base/conjugate acid salt.

21. The surface modified polymeric substrate of claim 17, wherein said substrate has been further treated with a weak Lewis base to form the conjugate base/conjugate acid salt.